DETAILED ACTION

This office action replaces the office action dated 3/15/2011 and starts a new time period.

This action is responsive to the amendment filed 1/7/2011. Accordingly the claims have been amended, cancelled or withdrawn and the spec amended as appropriate

Response to Arguments

Applicant's arguments filed 1/7/2011 have been fully considered but they are not persuasive.

Applicant's remarks regarding claim 1 are not persuasive because the limitation of "injected" is considered to be a product by process limitation, see below.

Applicant's remarks regarding claim 19 are not persuasive. The claim does not require an order to the steps. It merely requires providing first and second out metal plates spaced apart with spheres in between, which GB 1070874 clearly discloses and that a polyurethane elastomer material is injected to be fill the space between the plates. Applicant's remarks that the material GB 1070874 is not injected are not persuasive as broadly defined injected means to insert between other elements and the material of GB1070874 is injected between the side forms and the spheres, the claim doe snot require it to be injected between the plates, but to fill the space between the plates. The material of GB 1070874 clearly fills the space between the plates even though it is injected prior to the placement of the second plate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,9,14,18,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB1070874 in view of Swann et al (5803004).

Claims 1,9,14. GB1070874 discloses a structural sandwich plate member comprising:

first and second outer plates (3 as seen in figure 1, which can be of metal as noted on page 4, lines 8-14);

a core of compact polyurethane elastomer (2; Page 2, lines 123-125) between the first and second outer metal plates and bonded thereto with sufficient bond strength to transfer shear forces therebetween where the bond strength is great than 3MPa; and

a plurality of lightweight forms (1) within the core, wherein said forms are hollow spheres with a solid skin arranged in a single layer and have a diameter equal the distance between said outer metal layers (as seen in figures 1-2).

GB1070874 does not expressly disclose that the bond strength is greater than 3MPa or that the hollow spheres are polypropylene with a diameter equal to or between 20 and 100mm and filled with a gas. However, the bond strength appears to be a function of the core material and the material of the outer plates. As GB1070874 discloses the same materials for the outer plates and the core as claimed then the panel of GB1070874 has a bond strength greater than 3MPa.

GB107874 discloses that the hollow spheres may be made of a plastic or any suitable material (page 3, lines 2-5) and of any suitable size depending on the specific use requirements (page 2, lines 34-48). Additionally it is noted that applicant discloses in the specification at page 2, lines 28-35 that polypropylene sphere forms are known and common and readily available.

It is common and well known in the art to provide polypropylene spheres of a diameter equal to or between 20 and 100 mm for embedment in thermoplastic cores. Swann et al discloses a panel composition consisting of outer plates with a thermoplastics core material where the core has macropsheres formed of polypropylene (Col. 4, lines 8-14) with a diameter equal to or between 20 and 100 mm (Col. 3, lines 5-10) and filled with a gas (Col. 3, lines 8-9). It would have been obvious to one of ordinary skill in the art to modify the spheres of GB107874 to be made of polypropylene and of the claimed diameter and filled with a gas as one of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp and substitute one for another. In the instant case it would have been obvious for at least the reason of the availability of the material and the desired strength based on the intended use (where determining appropriate material and size to accommodate a desired strength are routine engineering calculations).

It should be noted that the limitation "injected" in claim 1 is considered a product-by-process limitation. The patentability of the product does not depend on its method of production. Determination of patentability is based on the product itself. See MPEP 2113. If the product-by-process claim is the same as or obvious from a product of the

same prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed.Cir.1985). In the instant case the product of claim 1 is the same as the product of the prior art even though it may be made by a different process.

Claim 18. GB107874 in view of Swann discloses the member as in claim 1 above, but GB107874 does not expressly disclose the thickness of the outer plates, but does disclose that the size is dependant on the intended use of the panel and the desired strength characteristics. One of ordinary skill in the art would have readily recognized that the dimensions could have been changed and it has been held that changes in sizes are viewed as obvious absent any unpredictable results. One of ordinary skill in the art would have recognized that by dimensioning the boards as claimed would result in a panel able to withstand desired forces. Determining an appropriate plate thickness, such as the claimed thickness, would have been recognized as routine engineering and not yield unpredictable results.

Claim 19. GB1070874 in view of Swann et al disclose a structural sandwich plate member as in the claims above and further define a method of manufacturing that structural sandwich plate member comprising the steps of :

providing first and second outer plates in a spaced-apart relationship and a plurality of lightweight forms within the space between said plates (GB 1070874 page 3, line 103-page 4, line 15), wherein said forms dare hollow polypropylene spheres (Swann, see above)

injecting uncured polyurethane elastomer material to fill the space (GB 1070874 page 3, lines 107- page 4, lines 15) defined between said outer plates and around said plurality of forms; and

allowing polyurethane elastomer material to cure to bond said outer plates together with sufficient strength to transfer shear forces therebetween (page 3, line 103- page 4, line 115).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA LAUX whose telephone number is (571)272-

8228. The examiner can normally be reached on Monday thru Thursday, 9:00am to 5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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